

EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|--|------------------------------|------------------|---------|------------------|
| L1 | 0 | ("kukulka.in.").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/05/24 19:45 |
| L2 | 11 | kukulka.in. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/05/24 19:50 |
| L3 | 686 | "136"/\$.ccls. and (shunt (integrated near diode)) | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 19:52 |
| L4 | 0 | I3 and (proton near (irradiation implantation)) | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 19:53 |
| L5 | 266 | I3 and (proton ion) | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 19:59 |
| L6 | 0 | 126/251.ccls. and shunt | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 19:59 |
| L7 | 0 | 126/243.ccls. and shunt | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 19:59 |
| L8 | 8 | 136/243.ccls. and shunt | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 19:59 |
| L9 | 49 | 136/251.ccls. and shunt | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 19:59 |
| L10 | 146 | 136/256.ccls. and shunt | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 20:00 |

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|-------|------|--|------------------------------|------------------|---------|------------------|
| L1 | 0 | ("kukulka.in.").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/05/24 19:45 |
| L2 | 11 | kukulka.in. | US-PGPUB; USPAT; USOCR | OR | OFF | 2007/05/24 19:50 |
| L3 | 686 | "136"/\$.ccls. and (shunt (integrated near diode)) | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 19:52 |
| L4 | 0 | I3 and (proton near (irradiation implantation)) | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 19:53 |
| L5 | 266 | I3 and (proton ion) | US-PGPUB; USPAT; USOCR | OR | ON | 2007/05/24 19:53 |

EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|--|------------------------------|------------------|---------|------------------|
| S1 | 736 | 136/255.ccls. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/03 16:56 |
| S2 | 262 | S1 and (shunt or diode) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/03 12:14 |
| S3 | 54 | S2 and shunt | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/03 12:17 |
| S4 | 43 | S2 and shunt | USPAT; USOCR | OR | ON | 2006/11/03 12:19 |
| S5 | 5 | S1 and shunt and channel | USPAT; USOCR | OR | ON | 2006/11/03 12:22 |
| S6 | 193 | "136"/\$.ccls. and (reverse adj bias) and (channel or shunt or diode) | USPAT; USOCR | OR | ON | 2006/11/03 12:25 |
| S7 | 93 | "136"/\$.ccls. and (reverse adj bias) and (channel or shunt or groove) | USPAT; USOCR | OR | ON | 2006/11/03 13:11 |
| S15 | 880 | (solar adj cell) and (p/n or pin) and (shunt or groove or channel) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/03 15:08 |
| S16 | 564 | (solar adj cell) and (p/n or pin) and (shunt or groove or channel) | USPAT; USOCR | OR | OFF | 2006/11/03 15:09 |
| S17 | 154 | (solar adj cell) and ((p/n or pin) adj junction) and (shunt or groove or channel) | USPAT; USOCR | OR | OFF | 2006/11/03 15:12 |
| S18 | 0 | (solar adj cell) and ((p/n or pin) adj junction) and (reverse adj bias adj protection) | USPAT; USOCR | OR | OFF | 2006/11/03 15:12 |
| S19 | 50 | (solar adj cell) and ((p/n or pin) adj junction) and (reverse adj bias) | USPAT; USOCR | OR | OFF | 2006/11/03 15:32 |
| S20 | 170 | (solar adj cell) and ((reverse adj bias) adj (current or voltage)) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/03 17:26 |
| S21 | 58 | S20 and diode with (tunnel or channel or groove or layer) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/06 09:40 |
| S23 | 75 | (solar or photovoltaic) and (reverse adj bias\$2) with (protect\$4) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/06 11:32 |
| S24 | 1467 | (solar or photovoltaic) and (reverse adj bias\$2) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/06 11:32 |

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|-----|------|--|------------------------------|----|-----|------------------|
| S26 | 100 | S24 and asymmetric and (current or voltage) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/06 11:45 |
| S28 | 10 | kukulka.in. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/06 11:41 |
| S29 | 3 | S28 and by-pass and diode | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/06 11:46 |
| S30 | 1 | S26 and by-pass and diode | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/06 11:47 |
| S31 | 31 | (solar or photovoltaic) and (by-pass adj diode) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/06 12:02 |
| S32 | 0 | ("(solarorphotovoltaic)andvias").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/06 17:06 |
| S33 | 880 | (solar or photovoltaic) and vias | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/06 17:07 |
| S34 | 43 | S33 and dope | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/06 17:07 |
| S35 | 4 | S34 and proton | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/06 17:07 |
| S36 | 1081 | (solar or photovoltaic) and (interconnect\$4 near (contact or wire or circuit or current)) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 09:27 |
| S37 | 662 | S36 and semiconductor | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 09:30 |
| S38 | 26 | S37 and dope | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 09:31 |
| S39 | 9 | S38 and (proton or hydrogen) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 09:34 |
| S40 | 488 | semiconductor and (dope\$4 with ((short adj circuit) or shunt)) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 09:36 |
| S41 | 93 | S40 and (proton or hydrogen) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 10:14 |

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| S42 | 8 | (solar or photovoltaic) and (doped adj (shunt or channel or vias or tunnel or wire or contact)) and proton | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 10:35 |
| S44 | 2 | 62-59901 | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2006/11/07 11:12 |
| S50 | 1728 | (solar or photovoltaic) and (short adj circuit adj current) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/07 11:42 |
| S51 | 30 | S50 and proton and hydrogen | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/07 11:38 |
| S52 | 3504 | semiconductor and (short adj circuit adj current) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 11:42 |
| S53 | 594 | S52 and shunt | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 11:43 |
| S54 | 210 | S53 and dope\$2 | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 11:53 |
| S59 | 57 | (current adj collector) and grid with (front) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/07 15:29 |
| S63 | 151 | 136/257.ccls. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/07 15:48 |
| S64 | 1421 | 136/258.ccls. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/07 15:52 |
| S65 | 1224 | S64 and semiconductor | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/07 15:53 |
| S66 | 818 | S65 and dope\$4 | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 15:53 |
| S67 | 949 | S65 and dop\$5 | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 15:56 |
| S68 | 729 | S67 and contact | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 15:56 |

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| S69 | 301 | S68 and grid | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/07 16:15 |
| S70 | 191 | S69 and (proton or hydrogen) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/08 13:38 |
| S71 | 1421 | 136/258.ccls. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/08 09:01 |
| S72 | 1224 | S71 and semiconductor | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/08 09:01 |
| S73 | 949 | S72 and dop\$5 | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/08 09:01 |
| S74 | 729 | S73 and contact | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/08 09:25 |
| S75 | 128 | S74 and (proton or hydrogen) and diode | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/08 09:01 |
| S76 | 0 | 136/89.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/08 13:38 |
| S77 | 15 | "2001672" | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/08 13:38 |
| S78 | 171 | proton adj implant | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/09 12:08 |
| S79 | 936362 | S78 and solar cell | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/09 09:43 |
| S80 | 0 | S78 and (solar adj cell) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/09 09:43 |
| S81 | 0 | S78 and (solar or photovoltaic) | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/09 09:43 |
| S82 | 112 | S78 and diode | US-PGPUB; USPAT; USOCR | OR | ON | 2006/11/09 10:45 |
| S83 | 1 | ("4433417").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/09 09:47 |

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| S84 | 736 | 136/255.ccls. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/09 12:23 |
| S85 | 1006 | ((solar or photovoltaic) near (plurality or wafer)) and interconnect\$4 | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/09 12:25 |
| S86 | 13 | "4070206" | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/09 14:13 |
| S87 | 1 | ("4070206").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/09 14:13 |
| S88 | 1 | ("4926083").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/09 14:14 |
| S89 | 2488 | (plurality adj (solar or photovoltaic)) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/09 15:30 |
| S90 | 0 | S89 and (highe adj output) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/09 15:30 |
| S91 | 43 | S89 and (higher adj output) | US-PGPUB; USPAT; USOCR | OR | OFF | 2006/11/09 15:30 |